

BEST AVAILABLE COPY

In the Claims:

Please cancel claims 1-11, 14-16 and 50-53. Further please amend claims 12 and 13 as indicated in the list of pending claims as follows:

1-11. (Cancelled)

12. (Currently Amended) The A probe card assembly of claim 11 for testing a device comprising:

a substrate with probe contacts on a first surface;

a probe card to electrically connect said probe contacts to a test system;

an electrical connection means to connect the probe contacts to the probe card; and

support means positioned against a second surface of the substrate substantially opposite said probe contacts without electrically connecting to the probe contacts, the support means transmitting probe forces introduced when the probe contacts are urged against corresponding contacts on the device being tested; and

a frame provided around a peripheral edge of the substrate, the frame including a horizontal extension extending over the surface of the substrate, wherein the probe forces are transmitted by the support means to the frame, wherein the horizontal extension of the frame includes a load support member extending vertically from a surface of the horizontal extension to engage the first surface of the substrate in an area separated from the peripheral edge of the substrate.

13. (Currently Amended) The A probe card assembly of claim 11, further for testing a device comprising:

a substrate with probe contacts on a first surface;

BEST AVAILABLE COPY

a probe card to electrically connect said probe contacts to a test system;  
an electrical connection means to connect the probe contacts to the probe card; and  
support means positioned against a second surface of the substrate substantially opposite  
said probe contacts without electrically connecting to the probe contacts, the support means  
transmitting probe forces introduced when the probe contacts are urged against corresponding  
contacts on the device being tested;

a frame provided around a peripheral edge of the substrate, the frame including a  
horizontal extension extending over the surface of the substrate, wherein the probe forces are  
transmitted by the support means to the frame;

a first membrane provided between a surface of the horizontal extension of the frame and  
the first substrate surface; and

a second membrane provided between the first membrane and the substrate to engage the  
substrate in an area separated from the peripheral edge of the substrate.

14-25. (Cancelled)

26. (Original) A probe card assembly for testing a wafer comprising:

a substrate having a surface supporting probe contacts; and

a frame provided around a peripheral edge of the substrate, the frame including a  
horizontal extension extending over the surface of the substrate supporting the probe contacts, the  
horizontal extension comprising a load support member extending vertically from a surface of the  
horizontal extension to engage the surface of the substrate supporting the probe contacts in an  
area separated from the peripheral edge of the substrate.

27. (Original) The probe card assembly of claim 26, wherein the load support member is  
machined into the frame.

BEST AVAILABLE COPY

28. (Original) The probe card assembly of claim 26, wherein the load support member comprises a flexible membrane.

29. (Original) A probe card assembly of claim 28, wherein the flexible membrane comprises:

a first membrane provided between a surface of the horizontal extension of the frame and the substrate surface; and

a second membrane provided between the first membrane and the substrate to engage the surface of the substrate supporting the probe contacts in the area separated from the peripheral edge of the substrate.

30. (Original) The probe card assembly of claim 29, wherein the first membrane and the second membrane comprise an electrically insulating material.

31. (Original) A probe card assembly of claim 26, wherein the horizontal extension extends over an area comprising 70% or more of the surface of the substrate supporting the probe contacts.

32-42. (Cancelled)

43. (Previously Presented) A probe card assembly for testing a device comprising:  
a first substrate with probe contacts on a first surface, the first substrate comprising a first material;

a second substrate attached to a second surface of the first substrate, the second substrate including routing lines electrically connecting to the probe contacts, the routing lines further

providing connections to a test system, the second substrate comprising a second material different than the first material;

a printed circuit board (PCB) having connectors for connecting to a test head on one side, and electrical connections provided on a second side for connecting to the routing lines of a second substrate;

an bracket fixedly connected to the PCB;

a frame provided around a peripheral edge of the second substrate, the frame including a horizontal extension extending over the first surface of the second substrate, wherein the horizontal extension comprises a load support member extending vertically from a surface of the horizontal extension to engage the surface of the second substrate supporting the probe contacts in an area separated from the peripheral edge of the second substrate; and

leaf springs having a first end attached to the bracket, and a second end to engage a surface of the frame.

44. (Original) The probe card assembly of claim 43, wherein the load support member is machined into the frame.

45. (Original) The probe card assembly of claim 43, wherein the load support member comprises a flexible membrane.

46. (Previously Presented) The probe card assembly of claim 43, wherein the leaf springs include bends between the first end and the second end to enable the peripheral edge of the frame to extend vertically from the bracket.

47-53. (Cancelled)